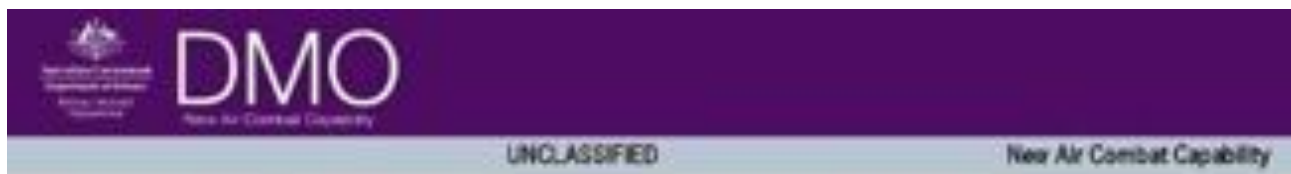




UPDATE ON THE NEW AIR COMBAT CAPABILITY PROGRAM

Air Vice-Marshal Kym Osley AM CSC spoke to the USI of the ACT at the Australian Defence College at Weston Creek on Wednesday, 1 June 2011

The United Services Institute of the ACT hosted a presentation by Air Vice-Marshal Kym Osley, the Program Manager New Air Combat Capability (PM NACC) within the Defence Materiel Organisation. The NACC Program will deliver a new air combat capability which will replace that currently provided by F/A-18 aircraft along with the capability previously provided by the now retired F-111. Australia joined the Joint Strike Fighter (JSF) Program in October 2002 as one of eight international partners to the United States of America. While the Program remains subject to considerable overseas and domestic scrutiny, Australia's government support has not faltered. AVM Osley's presentation concentrated on the broader JSF Program and its progress to date. He addressed the efforts of the NACC Project Office to introduce into service the tremendous capability that the F-35 will bring to Australia.



**Presentation to
United Services Institute of
Australia (USI)**

Wednesday 1 June 2011
AVM Kym Osley, PM NACC





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Take-aways

- US DoD has out major programs – but not F-35
- US F-35 numbers remain constant (2,443)
- US determination to contain costs
- Production has met milestones since Q3 2010 - CTOL exceeding planned test rate
- F-35 Partners committed but buy profiles are fluid - increasing FMS interest
- F-35 remains affordable for AUS, but contingency is reducing
- LRIP 6 long lead item contract signed
- No 'show stopper' to AUS first F-35 in 2014
- Good progress on IOT&E access - for 2018 IOC
- F-35 still in development - challenges expected - cautiously optimistic


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Family of Aircraft

Carrier Variant (CV) **Conventional Take-Off and Landing (CTOL)**



Short Take-Off Vertical Landing (STOVL)

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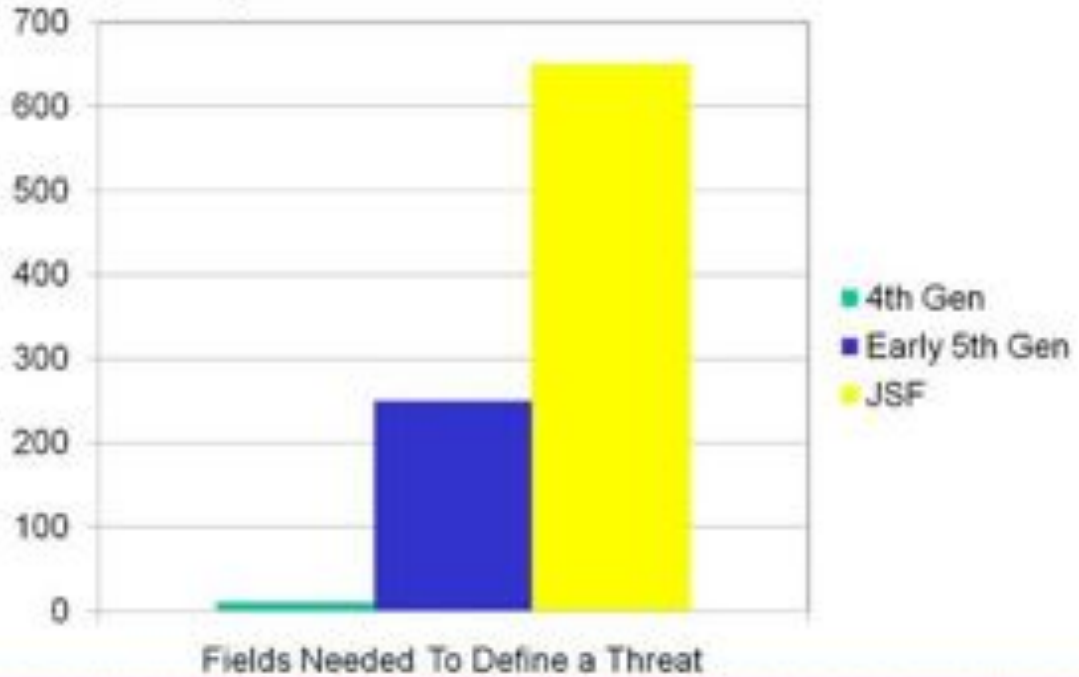
What is JSF?

The next generation "family" of strike fighters

- F-16/F/A-18C "like" aero performance
- Stealth Signature and Countermeasures
- Advanced avionics, data links and adverse weather precision targeting
- Increased range with internal fuel and weapons
- Highly supportable, state of the art prognostics and health management



F-35 Complexity





Technical Baseline Review

- SDD Phase
 - De-couple STOVL testing from the CVACTOL
 - US\$4.6B extra
 - All three US Services to review (IOC) dates (not yet done).
- Production
 - Production ramp up factor of approx 1.5
 - STOVL on 'probation' at 6 aircraft in US FY12 and FY13.
 - Overall production rate reduced by 124 a/c over five years

So what?

- US picking up SDD \$\$\$ increase...but
- Production 'learning curve' moved to right - early aircraft cost more



Technical Baseline Review cont.

- Implications for Australia
 - USAF to Australian IOC gap down from 2.5 yrs in 2010 to 6 - 18 months (USAF still deciding IOC)
 - SAR 10 to be passed to Congress mid-2011

So what?

- Pressures on Australian IOC – from USAF IOT&E process and potential software delays
- Have some cost buffer for first 14 acft even if SAR 10 estimate proves to be correct



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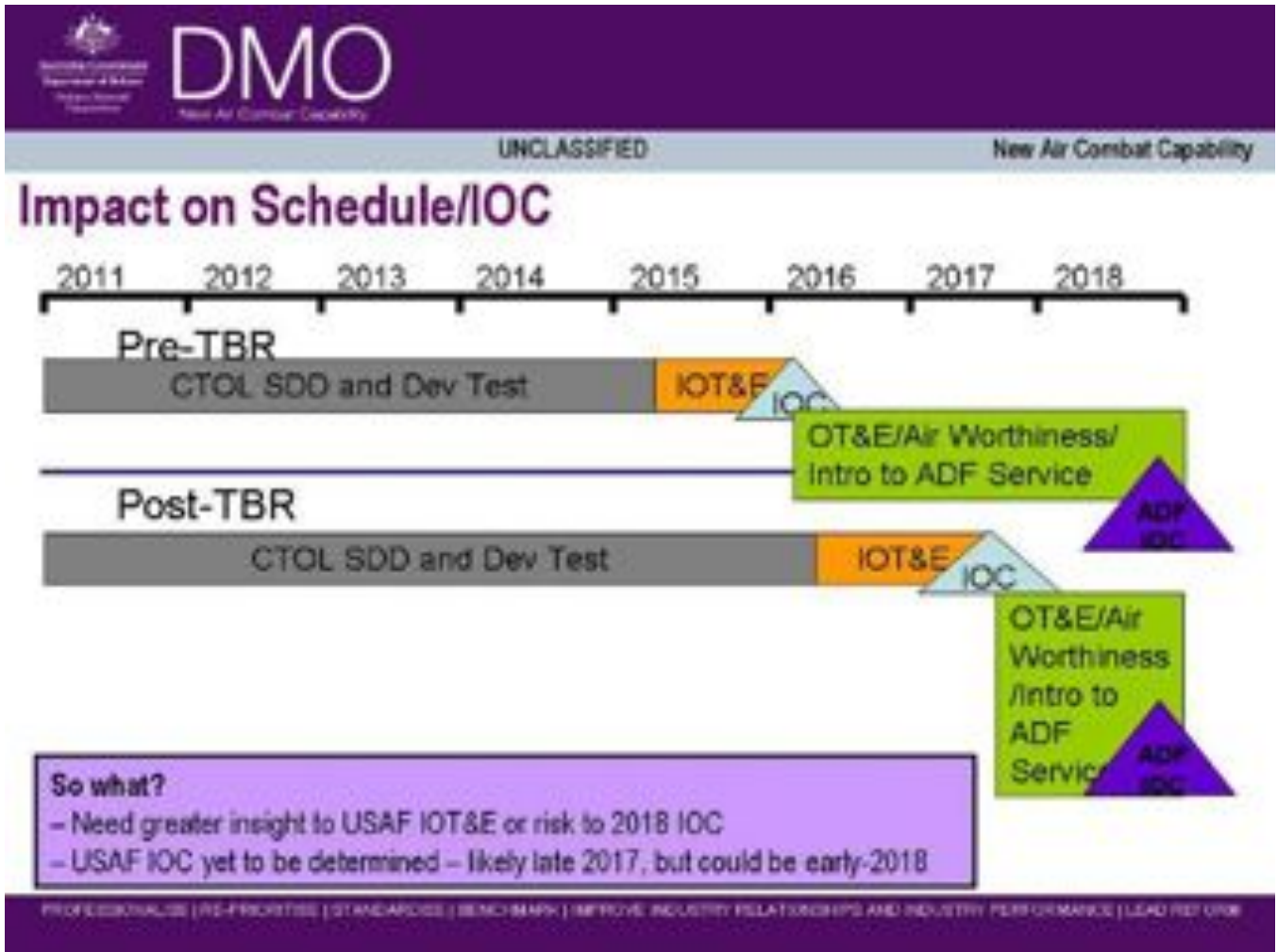
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Program Goals for 2011

- 16 aircraft delivered
- Achieving or exceeding planned development flight test milestones
- Negotiating an acceptable fixed price for LRIP 5
- Refining the JSF sustainment strategy and reducing estimated sustainment costs

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Impact on Capability

- **Software Development**
 - High risk area for the program.
- **Helmet Mounted Display**
 - HMD suffering latency issues
 - Most noticeable with NVG usage
 - 2 stage remediation
 - Continue with current development
 - RFP for less integrated HMD



So what?

- Software – watch closely HMD – probably OK




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Impact on Capability

- **F-35A (CTOL)**
 - 57 flights since 31 Mar 11
 - 146 flights for 2011
 - 2,260 aircraft planned across the Partnership
- **F-35B (STOVL)**
 - 43 flights since 31 Mar 11
 - 144 flights for 2011 (including 84 vertical landings)
 - 540 aircraft planned across the Partnership
- **F-35C (CV)**
 - 25 flights since 31 Mar 11
 - 41 flights for 2011
 - 340 aircraft planned across the Partnership

Total of 878 F-35 flights from the start of flight testing in Dec 06 to 10 May 11



So what?

- Flight test going well
- All indications that will ultimately meet capability goals

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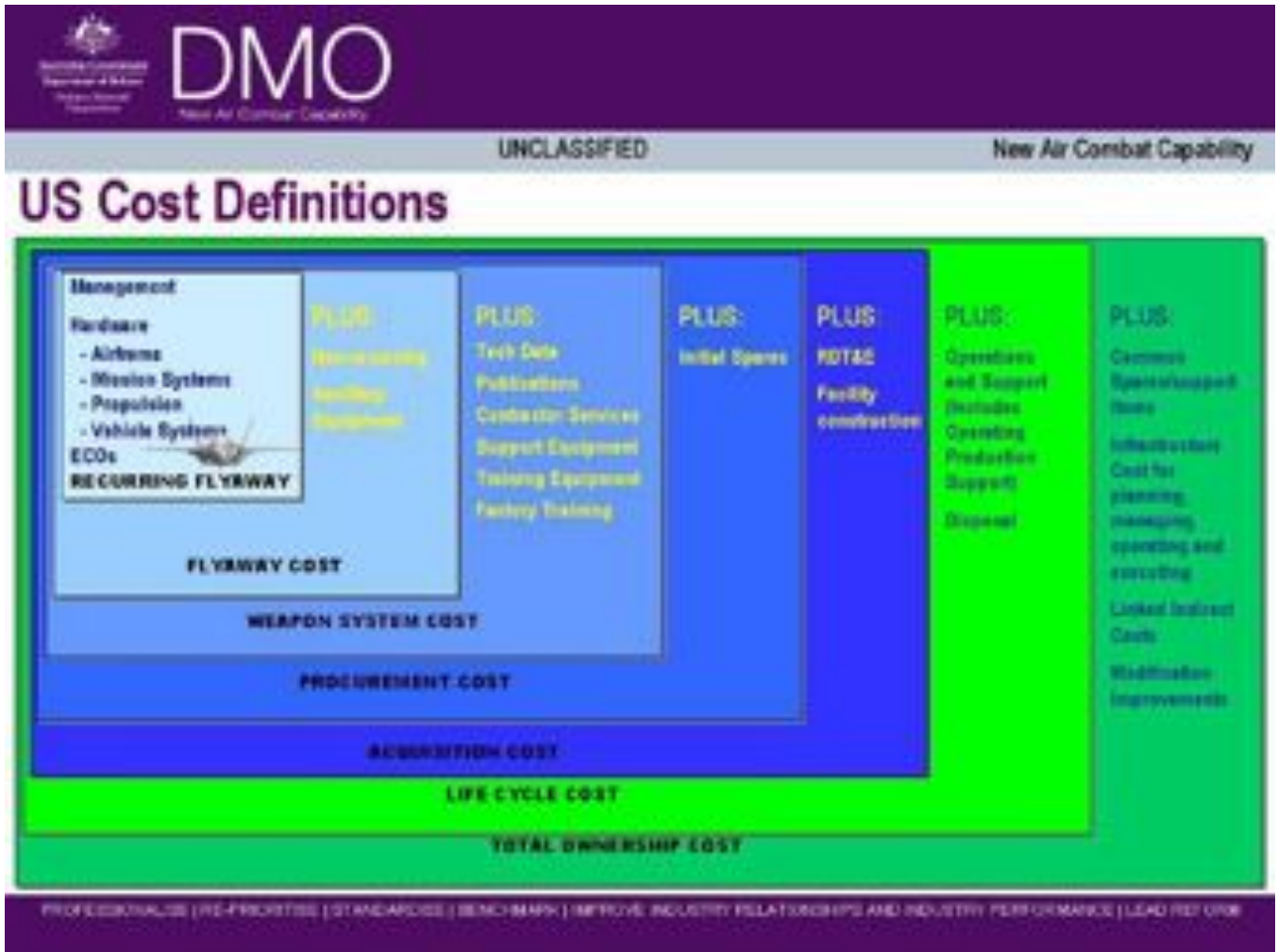



Impact on Cost (SAR 10)

- SAR 10 an increase from SAR 09.
- Major reasons behind increase – incorporating actual costs from LRIP 1-3 and adopting CAPE estimate methodologies in some areas.
- Implications for Australia –
 - Stage 1, SAR 10 estimates: leaves some contingency available – further analysis to follow.
 - Stage 2, total provisioning still well over SAR 10 estimate.

So what?

- Stage 1: still affordable but buffer coming down
- Stage 2: very affordable




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Production Delay....

	LRP1	LRP2	LRP3	LRP4	LRP5	LRP6	LRP7	LRP8	LRP9	LRP10	LRP11
Buy Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Del Year (+2)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CTOL	2	6	8	11	22	25 (64)	33(97)	76(173)	104(277)	134	162
CV	0	0	0	4	7	7	19	14	28	31	28
STOVL	0	6	9	17	3	6	18	20	22	29	28
Total	2	12	17	32	32	38	70	110	154	194	218
Total to Date	2	14	31	63	95	133	203	313	467	661	879

So what?

- 277 CTOL by end 2017
- 800+ JSF before multi-year buy starts





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Partnering Nations

-  • **Canada**
 - Pro-JSF Govt recently re-elected
-  • **Denmark**
 - No change to 2010
-  • **Italy**
 - Italy buying 4 CTOL in 2014...and FACO to be up and running by end 2012.
-  • **Netherlands**
 - Currently conducting an audit of JSF Program activities to satisfy their government requirement (for 85 CTOL).
 - Have just agreed to 2nd test aircraft

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Partnering Nations cont.



- **Norway**
 - Numbers not changing (48-56 CTOL)
 - Expect IOC of 2019
 - Four aircraft in 2016



- **Turkey**
 - Deferred the decision to participate further until late 2011



- **UK**
 - Plans to buy the F-35B (STOVL) likely to be converted to an F-35C (CV) purchase since the release of the TBR outcomes.
 - Numbers expected to be reduced from 138

So what?

- Turkey (and possibly Netherlands) may delay some of their procurement
- Can expect further poor media

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Foreign Military Sale

- **Israel**
 - First FMS customer; 19 aircraft (CTOL) to be delivered 2015 timeframe
 - Considering delaying delivery to ensure Block 3 SW delivered
- **Singapore**
 - Established FMS partner
- **Japan**
 - Sec Gates visit Jan 11 – JSF as logical choice
 - MoD "F-35 is a candidate for Japan's next-generation fighter"
 - Expected to down select by end 2011
- **Korea**
 - Considering F-35 for FX fighter program
 - RFP to be released Dec 11, seeking deliveries starting 2016 (LRIP 8)

So what?
– Fairly good FMS prospects (-):

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JSF IOT&E

- What is IOT&E?
- Now time critical – minimal time between USAF and AS IOC

So what?

– We will be working with USAF on IOT&E

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F136 Termination Decision

- 25 April 11 USDoD terminated F136 contract
 - Driven by budget, not performance
- GE/RR self funding ongoing development
 - Requested ongoing access to GFE
 - Lobbying for PB12 funding
- Not yet dead
- Australia welcomes the competition and engine choice

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Project Mandates

Mandate 1 - Deliver a new air combat capability comprising around 100 CTOL F-35 Joint Strike Fighters and all necessary support, infrastructure and integration to form four operational squadrons and a training squadron.

1.1 Phase 2A/B will acquire **no fewer than** 72 aircraft to form three operational squadrons and a training squadron with first deliveries in 2014 to achieve IOC in 2018 and FOC in 2021.

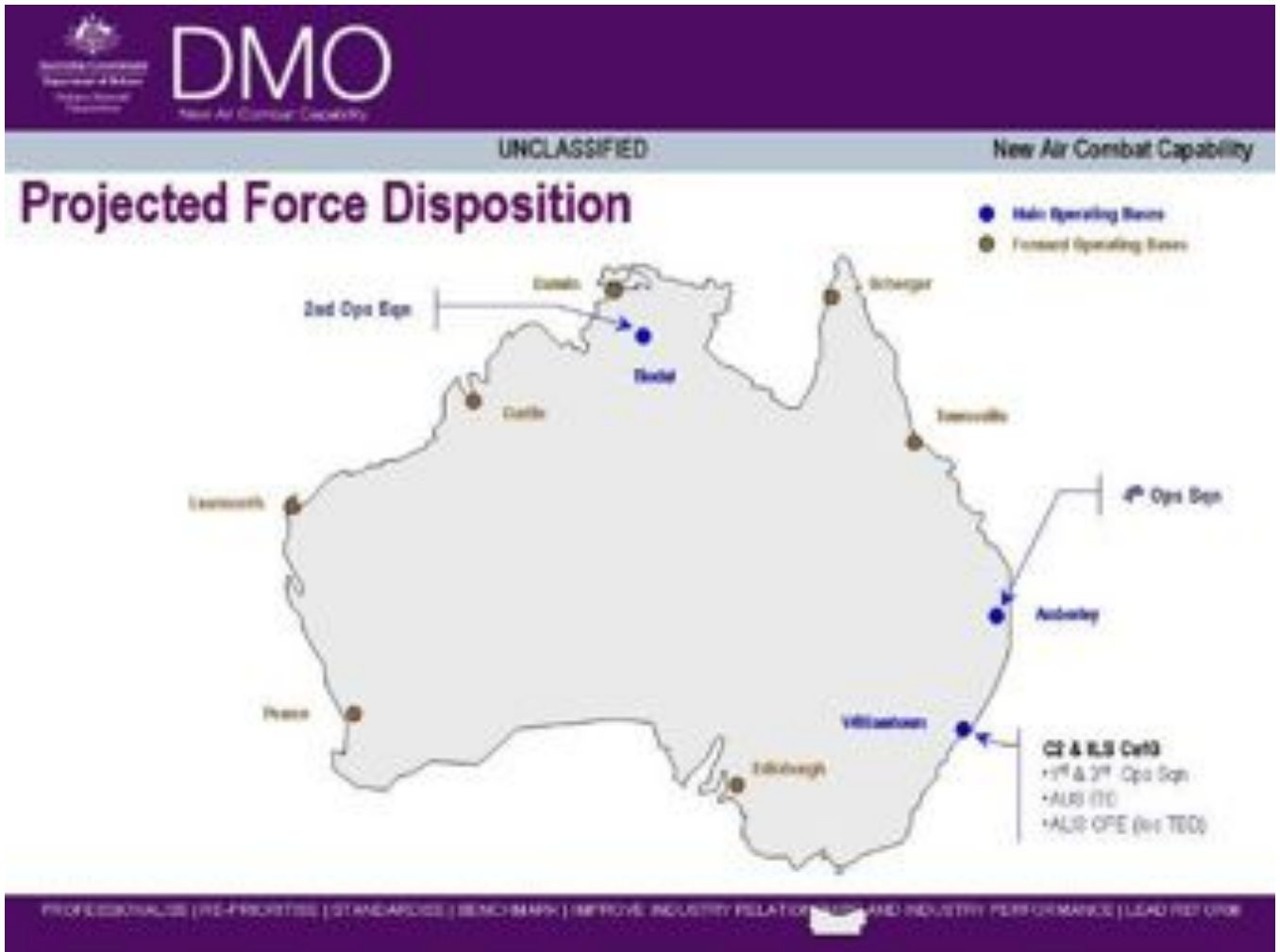
1.1.1 Stage 1 (**approved**) shall acquire an initial tranche of 14 CTOL JSF aircraft and associated support and enabling elements necessary to establish the initial training capability in the United States (US) and to allow conduct of Operational Test in the US and Australia.

1.1.2 Stage 2 (**unapproved**) shall acquire the remaining (**at least**) 58 JSF aircraft and support and enabling elements and is planned for approval in 2012.

1.2 Phase 2C (**unapproved**) shall acquire a fourth operational squadron bringing the total number of JSF aircraft to around 100. The timing for Phase 2C will be determined in conjunction with a decision on the retirement of the Super Hornet fleet.

Mandate 2 - Maximise the quality and quantity of Australian industry and Science and Technology (S&T) participation in the global JSF program.

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Training Stand-up in the US

- The Dutch should commence pilot training at the Eglin ITC before moving to the USAF Pilot Training Centre (expected Luke) in mid-2013
 - Australia will not be conducting pilot training at Eglin.
- Australia no longer planning to train maintainers at Eglin AFB
 - Most training will be conducted in Australia
 - Much smaller Australian footprint in the US (and lower cost!)
- Maintenance of Australian aircraft contracted while operated in the US
 - Cheaper and relieves ACG of overhead.

So what?

- Sort 'Pooling' MoU by end 2011
- We are not on critical path!
- Need to work closely with Dutch



Mission Data/EW

- Originally to be two Reprogramming labs at Eglin – US & Partner
- Others being considered
 - Workforce and cost share planning underway
 - Order long lead items this year for completion by 2015/16

So what?

- Needs to be ready for IOC – reduces schedule risk



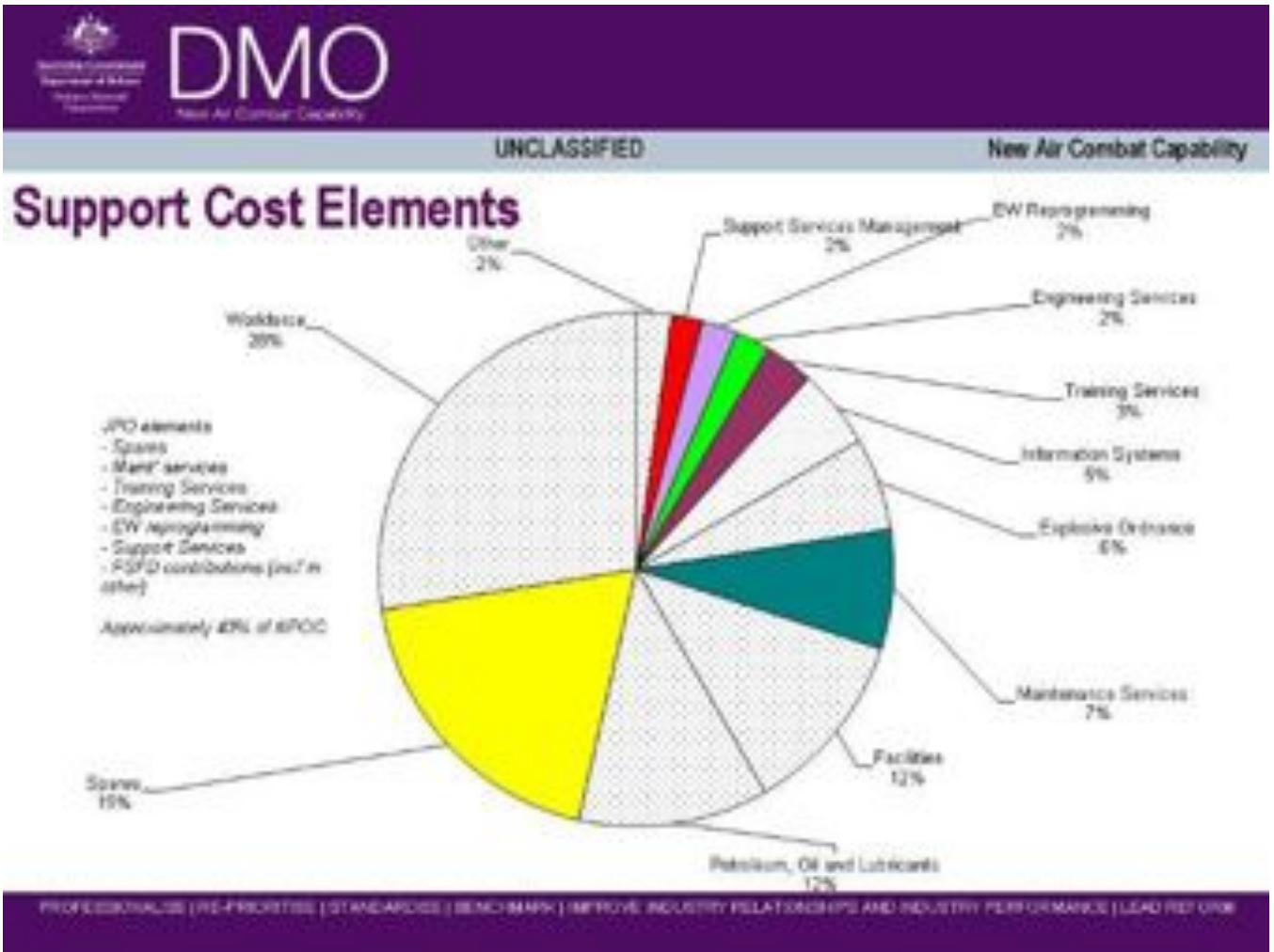
Sustainment

- **Cost**


- Most Personnel and Operating Costs (POC) reasonably well defined (using legacy and other data).
- Security manpower:
 - Although likely larger, will be offset by contractor DM and contractor delivered training.
- Autonomic Logistics System (eg PBL) unknown, but likely to only be 40 percent of total personnel and operating costs.

So what?

- Sustainment unknowns may not have as much impact on overall project costs as some think
- Need to work on 'security' personnel costs/requirements






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Expectations for In-Country Support

- Aircraft deeper maintenance (no JSF fly to the US for deeper mx)
- Regional (Australia only) warehouse/support centre (?).
- Low Observable Repaint Facility (?)
- Training facility for aircrew and support personnel (not to be shared)
- Limited component overhaul/support (?)
- Black box test facility
- Battery support
- Logistics Support Centre
 - (not much more than a shopfront)
- Weapon support
- **All the above will be contractor operated.**
- No software or EW programming in Australia.
- 'Warehouses' at each SQN.

Biography:

Air Vice-Marshal Kym Osley AM CSC is the Program Manager New Air Combat Capability (PM NACC) within the Defence Materiel Organisation. AVM Osley joined the Air Force in January 1977. He has flown as an Air Combat Officer in F-111 strike aircraft with No 1 Squadron RAAF and on United States Air Force exchange in reconnaissance Phantoms, as well as in RF-111C aircraft with No 6 Squadron. He was the RAAF Strategic Planner in Canberra before returning to Amberley and taking command of No 1 Squadron (F-111). As a Group Captain he served in the United Kingdom as the Air Force Adviser, attended the Centre for Defence and Strategic Studies and was the Officer Commanding of No 82 Wing (F-111). In August 2004 he was posted on promotion to Director-General Capability and Plans, Canberra. He deployed as Director of the Combined Air Operations Centre in the Middle East in the period November 2006 to March 2007 where he directed Coalition air operations over Iraq and Afghanistan, returning to Australia in July 2007 to be the Commander of Air Combat Group. AVM Osley was promoted to his current rank and appointed as Head of Australian Defence Staff (Washington) in July 2008. In December 2010, AVM Osley returned to Australia to take up the position of PM NACC.